IN THE SPECIFICATION

Please amend the paragraph beginning at page 25, line 6, as follows:

Examples of the dioxolane compound represented by the above general formula (11) include 2-alkyl-1,3-dioxolanes having an alkyl group having 1 to 30 carbon atoms such as 2-hexyl-1,3-dioxolane, 2-heptyl-1,3-dioxolane, 2-octyl-1,3-dioxolane and 2-eicosyl-1,3-dioxolane; dioxolane compounds having a branched alkyl group as the side chain such as ~~2-(2-butylheptyl)-1,3-dioxolane~~ 2-(1-butylheptyl)-1,3-dioxolane, ~~2-(2-hexylnonyl)-1,3-dioxolane~~ 2-(1-hexylnonyl)-1,3-dioxolane, ~~2-(2-octyldecyl)-1,3-dioxolane~~ 2-(1-octyldecyl)-1,3-dioxolane, ~~2-(2-octylundecyl)-1,3-dioxolane~~ 2-(1-octylundecyl)-1,3-dioxolane, ~~2-(2-decyl- tetradecyl)-1,3-dioxolane~~ 2-(1-decyl- tetradecyl)-1,3-dioxolane and ~~2-(2-octadecyleicosyl)-1,3-dioxolane~~ 2-(1-octadecyleicosyl)-1,3-dioxolane; and 2-alkenyl-1,3-dioxolanes having a linear alkenyl group having 1 to 30 carbon atoms or a branched alkenyl group such as ~~2-(2-octenylundecyl)-1,3-dioxolane~~ 2-(1-octenylundecyl)-1,3-dioxolane. Examples of the compound having a hydrocarbon group having 1 to 30 carbon atoms and having ether bond, ester bond or hydroxyl group include 2-alkyl-4-alkanol-1,3-dioxolanes such as ~~2-(2-octyldodecyl)-α,β-glycerol formal~~ 2-(1-octyldodecyl)-α,β-glycerol formal. In the present invention, dioxolane compounds having a branched alkyl group as the side chain are preferable.

Please amend the paragraph beginning at page 31, line 13, as follows:

(3) Synthesis of a 2-(long chain branched alkyl)-1,3-dioxolane compound

Into a three-necked flask having an inner volume of 500 ml and equipped with a dropping funnel and a reflux condenser, 200 ml of ethylene glycol (manufactured by WAKO JUN-YAKU Co., Ltd; Special Reagent Grade) and 2 g of concentrated sulfuric acid (the concentration: 96% by mass or greater) were placed, and the content was heated at 80°C.

While the content was stirred at this temperature, 42.5 g (0.143 moles) of 2-octyl-1,2-epoxydodecane synthesized above in (2) was slowly added dropwise over 8 hours. After the addition was completed, the resultant mixture was stirred for 1 hour, and then the temperature was lowered. The reaction product was treated by the liquid-liquid separation. The upper layer was washed with water and dried, and 57.4 g (the yield: 79.3 % by mole) of ~~2-(2-octylundecyl)-1,3-dioxolane~~ 2-(1-octylundecyl)-1,3-dioxolane (a 2-(long chain branched alkyl (the number of carbon atoms: 19))-1,3-dioxolane compound which was an alkyl(cyclic)acetal compound) having a purity of 71% by mass was obtained.

Please amend the paragraph beginning at page 38, line 14, as follows:

Example 3 [Synthesis of ~~2-(2-butylheptyl)-1,3-dioxolane~~ 2-(1-butylheptyl)-1,3-dioxolane]

In accordance with similar procedures to those conducted in Example 1(1) except that 1-hexene was used in place of 1-decene used in Example 1(1), a dimer of hexene was synthesized, and 2-butyl-1,2- epoxyoctane was synthesized using the obtained dimer of hexene in accordance with procedures similar to those conducted in Example 1(2). In accordance with similar procedures to those conducted in Example 1(3) except that 2-butyl-1,2-epoxyoctane was used in place of 2-octyl-1,2-epoxydodecane used in Example 1(3), ~~2-(2-butylheptyl)-1,3- dioxolane~~ 2-(1-butylheptyl)-1,3- dioxolane was obtained.

Please amend the paragraph beginning at page 38, line 25, as follows:

Example 4 [Synthesis of ~~2-(2-hexylnonyl)-1,3-dioxolane~~ 2-(1-hexylnonyl)-1,3-dioxolane]

In accordance with similar procedures to those conducted in Example 1(1) except that 1-octene was used in place of 1-decene used in Example 1(1), a dimer of octene was synthesized, and 2-hexyl-1,2- epoxydecane was synthesized using the obtained dimer of octene in accordance with procedures similar to those conducted in Example 1(2). In

accordance with similar procedures to those conducted in Example 1(3) except that 2-hexyl-1,2-epoxydecane was used in place of 2-octyl-1,2- epoxydodecane used in Example 1(3), ~~2-(2-hexylnonyl)-1,3-dioxolane~~ 2-(1-hexylnonyl)-1,3-dioxolane was obtained.

Please amend the paragraph beginning at page 39, line 10, as follows:

Example 5 [Synthesis of ~~2-(2-octylundecyl)-α,β-glycerol formal~~ 2-(1-octylundecyl)-α,β-glycerol formal]

In accordance with similar procedures to those conducted in Example 1(3) except that glycerol was used in place of ethylene glycol used in Example 1(3), ~~2-(2-octylundecyl)-α,β-glycerol formal~~ 2-(1-octylundecyl)-α,β-glycerol formal was obtained.

Please amend the paragraph beginning at page 39, line 15, as follows:

Example 6 [Synthesis of ~~2-(2-octenylundecyl)-1,3-dioxolane~~ 2-(1-octenylundecyl)-1,3-dioxolane]

In accordance with similar procedures to those conducted in Example 1(3) except that 2-octenyl-1,2-epoxydodecane was used in place of 2-octyl-1,2-epoxydodecane used in Example 1(3), ~~2-(2-octenylundecyl)-α,β-glycerol formal~~ 2-(1-octenylundecyl)-α,β-glycerol formal was obtained.

Please amend page 43 as follows:

Table 1 - 1

Component of composition	Kinematic viscosity at 40°C	Comparative Example				Example		
(% by mass)	(mm^2/s)	1	2	3	4	7	8	9

Polybutene *1	1500	99.9	84.9	94.9		84.9	84.9	84.9
Polyisobutylene *2	1500				84.9			
Polyalkylene glycol insoluble in water *3	1500							
Butyl stearate *4			15.0		15.0			
2-Ethylhexyl stearate *5				15.0				
~~2-(2-Butylheptyl)-1,3-dioxolane *6~~								
2-(1-Butylheptyl)-1,3-dioxolane *6						15.0		
~~2-(2-Hexylnonyl)-1,3-dioxolane *7~~								
2-(1-Hexylnonyl)-1,3-dioxolane *7							15.0	
~~2-(2-Octylundecyl)-1,3-dioxolane *8~~								
2-(1-Octylundecyl)-1,3-dioxolane *8								15.0
~~2-(2-Octylundecyl)-α,β-glycerol formal *9~~								
2-(1-Octylundecyl)-α,β-glycerol formal *9								
~~2-(2-Octenylundecyl)-1,3-dioxolane *10~~								
2-(1-Octenylundecyl)-1,3-dioxolane *10								
2-Octyl-1,2-epoxydodecane *11								
Benzotriazole *12		0.1	0.1	0.1	0.1	0.1	0.1	0.1
Load of drawing plate (N)		4341	3625	3606	3783	3283	3244	3136
Annealing test 1	residues	little	none	little	none	none	none	none
	change in color	none	none	little	none	none	none	none
	attachment of cap	none	found	found	found	none	none	none
Annealing test 2	amount of residual oil (mg/m)	0.31	0.10	0.11	0.18	0.06	0.07	0.08

Please amend page 44 as follows:

Table 1 - 2

Component of composition	Kinematic viscosity at 40°C	Example					
(% by mass)	(mm^2/s)	10	11	12	13	14	15
Polybutene *1	1500	84.9	84.9		84.9	83.9	

Polyisobutylene *2	1500			84.9			
Polyalkylene glycol insoluble in water *3	1500						84.9
Butyl stearate *4							
2-Ethylhexyl stearate *5							
~~2-(2-Butylheptyl)-1,3-dioxolane *6~~							
2-(1-Butylheptyl)-1,3-dioxolane *6							
~~2-(2-Hexylnonyl)-1,3-dioxolane *7~~							
2-(1-Hexylnonyl)-1,3-dioxolane *7							
~~2-(2-Octylundecyl)-1,3-dioxolane *8~~							
2-(1-Octylundecyl)-1,3-dioxolane *8			15.0			15.0	15.0
~~2-(2-Octylundecyl)-α,β-glycerol formal *9~~							
2-(1-Octylundecyl)-α,β-glycerol formal *9	15.0						
~~2-(2-Octenylundecyl)-1,3-dioxolane *10~~							
2-(1-Octenylundecyl)-1,3-dioxolane *10				15.0	15.0		
2-Octyl-1,2-epoxydodecane *11						1.0	
Benzotriazole *12	0.1		0.1	0.1	0.1	0.1	0.1
Load of drawing plate (N)		3214	3391	3440	3508	3156	3185
Annealing test 1	residues	none	none	none	none	none	none
	change in color	none	none	none	none	none	none
	attachment of cap	none	none	none	none	none	none
Annealing test 2	amount of residual oil (mg/m)	0.09	0.09	0.09	0.09	0.10	0.09

Notes:

*1: Manufactured by IDEMITSU KOSAN Co., Ltd.; the trade name: 100R

*2: Manufactured by EXXON CHEMICAL Company

*3: Polyoxybutylene glycol mono-n-butyl ether

*4: Manufactured by KAO Co., Ltd.

Please amend Table 2 on page 46 as follows:

Table 2

Component of composition (% by mass)	Example 16	Comparative Example 5

Polybutene (kinematic viscosity at 40°C: 130 mm^2/m) *1	84.9	84.9
Butyl stearate *2		15.0
~~2-(2-Octylundecyl)-1,3-dioxolane *3~~		
2-(1-Octylundecyl)-1,3-dioxolane *3	15.0	
Benzotriazole *4	0.1	0.1
Defect fraction in squeezing (%)	4	18
Wear of tool	none	little

Notes:

*1: Manufactured by IDEMITSU KOSAN Co., Ltd.; the trade name: 5H

*2: Manufactured by KAO Co., Ltd.

*3: The compound of Example 1

*4: Manufactured by JOHOKU KAGAKU Co., Ltd.; the trade name: BT-120

Please amend Table 3 on page 47 as follows:

Table 3

Component of composition (% by mass)	Comparative Example 6	Example 17	Example 18
Mineral oil (kinematic viscosity at 40°C: 8 mm^2/m) *1	90.0	90.0	89.0
Butyl stearate *2	10.0		
~~2-(2-Octylundecyl)-1,3-dioxolane *3~~			
2-(1-Octylundecyl)-1,3-dioxolane *3		10.0	10.0
2-Octyl-1,2-epoxydodecane *4			1.0
Critical draft (%)	55.0	>65	>65
Observation		no damages on the surface even at 65%	

Notes:

*1: A paraffinic mineral oil

*2: Manufactured by KAO Co., Ltd.

*3: The compound of Example 1

*4: The compound of Example 1(2)